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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/064,136 | 06/13/2002 | Michael W. Fortner | MYKR1350 | 3231 |

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GRAY, CARY, WARE & FREIDENRICH LLP
1221 SOUTH MOPAC EXPRESSWAY
SUITE 400
AUSTIN, TX 78746-6875

EXAMINER

TANG, MINH NHUT

ART UNIT PAPER NUMBER

2829

DATE MAILED: 08/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/064,136

Applicant(s)

FORTNER, MICHAEL W.

Examiner

Minh N. Tang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,4-9,12-15,19,20,22-24,26,28 and 31-33 is/are allowed.
- 6) ☒ Claim(s) 2,3,10,11,16-18,21,25,27,29 and 30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 June 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: reference number "24" in Fig. 4. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities:

a/ on page 5, lines 2 and 15 (counted by hand), "diaphragm"s" and "sensor"s" should be -- diaphragm's -- and -- sensor's --, respectively.

b/ on page 6, lines 2 and 21 (counted by hand), "CDS"s" should be -- CDS's --.

c/ on page 8, line 27 (counted by hand), "sensor"s" should be --sensor's --.

d/ on page 9, lines 20 and 21 (counted by hand), "electrode"s" and "CDS"s" should be -- electrode's -- and -- CDS's --, respectively.

e/ on page 11, lines 8-9 and 22 (counted by hand), "designated B+ and ." and "DCM 10" should be -- designated B+ and B-. -- and -- CDS 10 --, respectively.

f/ on page 13, lines 13 and 19 (counted by hand), "transformer"s" and "amplifier"s" should be -- transformer's -- and -- amplifier's --, respectively.

g/ on pages 16 through 20, [c1], [c2], [c3], [c4], [c5], [c6] (page 16), [c7], [c8], [c9], [c10], [c11], [c12] (page 17), [c13], [c14], [c15], [c16], [c17], [c18], [c19], [c20], [c21]

(page 18), [c22], [c23], [c24], [c25], [c26], [c27] (page 19), and [c28], [c29], [c30], [c31], [c32], [c33] (page 20) should be deleted.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 2-3, 10-11, 16-18, 21, 25, 27, 29, and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 2 and 3, the limitation "the differential capacitance manometer" has not been recited previously; therefore this term is indefinite.

In claim 10, it is not clear "the center-tap" represents. Is "the center-tap" different from or the same as "center-tap primary winding"?

In claim 11, it is not clear "the primary windings" (lines 2 and 4) referred to whether "the one or more primary windings" or "a pair of primary windings".

In claim 16, the limitation "the charge amplifier" (lines 2-3) has not been recited previously, therefore this term is indefinite. Should claim 16 depend on claim 9?

In claim 17, it is not clear "an excitation voltage source" different from or the same as "a voltage source" recited previously. If "an excitation voltage source" is different from "a voltage source", then there are two types of voltage source. Are those two types of voltage source shown in any figures? Furthermore, the limitations " the

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port" (line 3), and "the common mode transformer" (line 5) have not been recited previously; therefore these terms are indefinite.

In claim 18, the limitation "the excitation voltage source" (line 2) has not been recited previously, therefore this term is indefinite.

In claim 21, the limitation "the charge amplifier" (line 4) has not been recited previously, therefore this term is indefinite. Should claim 16 depend on claim 9?

In claims 25 and 29, it is not clear "the signal" (line 2 in claim 25, and line 1 in claim 29) referred to whether "a signal induced on the secondary winding of the current transformer" or "an amplified signal corresponding to the signal induced on the secondary winding of the current transformer".

In claim 27, the limitation "the excitation source" (lines 2 and 4) has not been recited previously, therefore this term is indefinite.

Claim 30 is rejected since it depends on claim 29.

Allowable Subject Matter

5. Claims 1, 4-7, 8-9, 12-15, 19, 20, 22-24, 26, 28, and 31-33 are allowed.

Claims 1, 4-7 recite, inter alia, an interface for a capacitance diaphragm sensor (CDS) comprising a conductive shielding structure positioned around a current transformer and a charge amplifier; a common mode transformer having a first winding coupled to receive the amplified signal from the charge amplifier; an excitation voltage source, wherein the excitation voltage source is coupled to the primary winding of the current transformer and configured to supply an excitation voltage to a port of the CDS, wherein the excitation voltage source is further coupled to a second winding of the

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common mode transformer, and wherein the excitation voltage source is further coupled to the shielding structure.

Claims 8-9, 12-15, 19, 20, 22-24, 26, 28, and 31-33 recite, inter alia, a device and method for measuring current differential, comprising a differencing current transformer having one or more primary windings configured to be coupled between a voltage source and a pair of circuits, wherein current flowing through the one or more primary windings to a first one of the pair of circuits generates a first magnetomotive force (MMF) and wherein current flowing through the one or more primary windings to a second one of the pair of circuits generates a second MMF which is opposite in polarity to the first MMF and wherein the net of the first and second MMFs induces a current on a secondary winding of the differencing current transformer proportional to the difference between the first and second MMFs.

The art of record does not disclose the above limitations, nor would it be obvious to modify the art of record so as to include the above limitations.

It is noted that claims 2-3, 10-11, 16-18, 21, 25, 27, 29, and 30 would be allowed along with the allowable claims above if they are amended to overcome the 112 rejection.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

| | | |
|----|-----------|-----------------------------------|
| Wu | 5,948,169 | Apparatus For Preventing Particle |
| | | Deposition In A Capacitance |

| | | |
|---------------|-----------|---|
| | | Diaphragm Gauge. |
| Ferran | 5,396,803 | Dual Balanced Capacitance Manometers For Suppressing Vibration Effects. |
| Ferran et al. | 4,823,603 | Capacitance Manometer Having Stress Relief For Fixed Electrode. |

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh N. Tang whose telephone number is (703) 305-1652. The examiner can normally be reached on M-F (6:30-4:00) first Fri. Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mrs. Cuneo , Kamand can be reached on (703) 308-1233. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3431 for regular communications and (703) 305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3431.



Minh Tang
August 11, 2003